



SEQUENCE LISTING

<110> KYOWA HAKKO KOGYO CO., LTD.,

<120> NOVEL POLYPEPTIDE

<130> 766.52

<140> US 09/856,617

<141> 2001-05-24

<150> H10-332484

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<150> H11-248442

<151> 1999-09-02

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<170> PatentIn Ver. 2.0

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Glu Asp Thr Arg Met Lys Asn Val Pro Val Pro Val Tyr Cys Arg Pro	
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Asp Ser Ser Asp Lys Ala Ala Ser Ser Phe Ile Pro Tyr Cys Ser Met	
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Ala Asp Ser Thr Leu Cys His Ile Leu Asn Leu Tyr Arg Arg Thr Thr
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Thr	Ala	Pro	Gly	Gly	Pro	Ala	Arg	Val	Leu	Glu	Arg	Thr	Glu	Ser	Arg		
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Ser	Ile	Ser	Ser	Arg	Phe	Leu	Leu	Gln	Val	Gln	Thr	Leu	Pro	Leu	Arg		
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Glu Pro Ser Leu Ser Ser Ser Gly Leu Ala Leu Thr Ser Arg Pro Asp	
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Gln Val Ser Gln Val Ser Gly Glu Gln Leu Lys Gly Ser Gly Ala Thr	
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Pro Pro Gly Ala Pro Pro Glu Met Glu Pro Ser Ser Gly Asn Ser Gly	
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Pro Lys Gln Val Ala Pro Val Leu Leu Thr Arg Arg Arg Asn Asn Leu	
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Asp Asn Ser Trp Ala Ser Lys Lys Met Ala Ala Thr Arg Pro Leu Ala	
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Gly Leu Gln Lys Ala Gln Ser Val His Ser Leu Val Pro Gln Asp Glu	
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Ser Tyr Gln Asn His Thr Thr Ser Ser Met Ala Lys Leu Ala Arg Ser	
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Ile Ser Val Gly Glu Asn Pro Gly Leu Ala Thr Glu Pro Gln Ala Pro	
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Ala His Leu Val Leu Asp Ile Pro Lys Pro Leu Pro Asp Arg Pro Thr	
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Glu Lys His Ser Cys Leu Gly Glu Gly Thr Thr His Lys Ser Arg Thr	
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Glu Cys Gln Ala Tyr Pro Gly Pro Asn His Pro Cys Arg Gln Gln Leu	
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Pro Val Asn Asn Leu Leu Gln Ala Glu Ser Leu Gln Pro Leu Ser Pro	
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Glu Lys Thr Arg Asn Pro Val Glu Ser Ser Arg Pro Gly Val Ala Leu	
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Val Ala Glu Leu Gln Gly Asn Val Arg Gln Ala Val Glu Leu Tyr Arg	
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Ala Val Thr Ser Cys Lys Thr Pro Ser Ala Glu Gln Ser His Ile Thr	
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Arg Leu Leu Arg Asp Thr Phe Ser Pro Val Arg Gln Glu Leu Glu Val	
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Leu Ala Gly Ala Val Leu Ser Ser Pro Gly Gly Ser Pro Gly Ala Val	
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Leu Gly Leu Arg Pro Thr Ser Val Asp Pro Ala Leu Arg Arg Arg Arg	
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Arg Gly Pro Arg Asn Lys Lys Arg Gly Trp Arg Arg Leu Ala Glu Glu	

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Pro Leu Gly Leu Glu Val Asp Gln Phe Leu Glu Asp Val Arg Leu Gln			
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Phe Phe Val Asp Thr Gly Phe Lys Arg Lys Glu Pro Arg Lys Lys Arg			
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acc ttg gtc cag aag aag tca cag cgt ctc cag aaa ccc tta cgg gtt			336
Thr Leu Val Gln Lys Lys Ser Gln Arg Leu Gln Lys Pro Leu Arg Val			
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Asp Leu Ala Leu Glu Asn His Ser Lys Ile Pro Ala Pro Lys Asp Ile			
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Lys Ala Gln Ala Arg Leu Leu Ser Pro Pro Thr Pro Lys Ala Lys Pro			
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Gly Pro Gln Asp Ile Ile Glu Arg Pro Phe Tyr Asp Leu Trp Asn Pro			
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Asp Asn Pro Leu Asp Thr Pro Leu Ile Gly Gln Asp Ala Phe Phe Leu			
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Trp Arg Arg Leu Ala Glu Glu Pro Leu Gly Leu Glu Val Asp Gln Phe
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Pro Thr Pro Lys Ala Lys Pro Gly Pro Gln Asp Ile Ile Glu Arg Pro
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Phe Tyr Asp Leu Trp Asn Pro Asp Asn Pro Leu Asp Thr Pro Leu Ile
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Lys	Ala	Ala	Arg	Lys	Leu	Arg	Val	Gln	Gln	Ala	Ala	Leu	Arg	Ala	Ala		
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Ile	Arg	Arg	Leu	Ala	Glu	Ala	Asp	Lys	Pro	Arg	Arg	Leu	Gly	Arg	Leu		
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Glu Lys Ala Leu Arg Lys Gln Ala Glu Glu Lys Phe Ile Glu Phe Glu
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Asp Ala Leu Glu Gln Glu Lys Lys Glu Leu Gln Ile Gln Val Glu His
115 120 125

Tyr Glu Phe Gln Thr Arg Gln Leu Glu Leu Lys Ala Lys Asn Tyr Ala
130 135 140

Asp Gln Ile Ser Arg Leu Glu Glu Arg Glu Ser Glu Met Lys Lys Glu
145 150 155 160

Tyr Asn Ala Leu His Gln Arg His Thr Glu Met Ile Gln Thr Tyr Val
165 170 175

Glu His Ile Glu Arg Ser Lys Met Gln Gln Val Gly Gly Ser Gly Gln
 180 185 190
 Thr Glu Ser Ser Leu Pro Gly Arg Ser Pro Arg Gln Ser Trp Arg Lys
 195 200 205
 Ser Arg Lys Glu Arg Pro Thr Ser Leu Asn Val Phe Pro Leu Ala Asp
 210 215 220
 Gly Met Cys Pro Asn Asp Glu Met Ser Glu Ser Gly Gln Ser Ser Ala
 225 230 235 240
 Ala Ala Thr Pro Ser Thr Thr Gly Thr Lys Ser Asn Thr Pro Thr Ser
 245 250 255
 Ser Val Pro Ser Ala Ala Val Thr Pro Leu Asn Glu Ser Leu Gln Pro
 260 265 270
 Leu Gly Asp Tyr Val Ser Val Thr Lys Asn Asn Lys Gln Ala Arg Glu
 275 280 285
 Lys Arg Asn Ser Arg Asn Met Glu Val Gln Val Thr Gln Glu Met Arg
 290 295 300
 Asn Val Ser Ile Gly Met Gly Ser Ser Asp Glu Trp Ser Asp Val Gln
 305 310 315 320
 Asp Ile Ile Asp Ser Thr Pro Glu Leu Asp Val Cys Pro Glu Thr Arg
 325 330 335
 Leu Glu Arg Thr Gly Ser Ser Pro Thr Gln Gly Ile Val Asn Lys Ala
 340 345 350
 Phe Gly Ile Asn Thr Asp Ser Leu Tyr His Glu Leu Ser Thr Ala Gly
 355 360 365
 Ser Glu Val Ile Gly Asp Val Asp Glu Gly Ala Asp Leu Leu Gly Glu
 370 375 380
 Phe Ser Val Arg Asp Asp Phe Phe Gly Met Gly Lys Glu Val Gly Asn
 385 390 395 400
 Leu Leu Leu Glu Asn Ser Gln Leu Leu Glu Thr Lys Asn Ala Leu Asn
 405 410 415
 Val Val Lys Asn Asp Leu Ile Ala Lys Val Asp Gln Leu Ser Gly Glu
 420 425 430
 Gln Glu Val Leu Lys Gly Glu Leu Glu Ala Ala Lys Gln Ala Lys Val
 435 440 445
 Lys Leu Glu Asn Arg Ile Lys Glu Leu Glu Glu Glu Leu Lys Arg Val
 450 455 460
 Lys Ser Glu Ala Val Thr Ala Arg Arg Glu Pro Arg Glu Glu Val Glu
 465 470 475 480
 Asp Val Ser Ser Tyr Leu Cys Thr Glu Leu Asp Lys Ile Pro Met Ala
 485 490 495

Gln	Arg	Arg	Arg	Phe	Thr	Arg	Val	Glu	Met	Ala	Arg	Val	Leu	Met	Glu		
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Arg	Asn	Gln	Tyr	Lys	Glu	Arg	Leu	Met	Glu	Leu	Gln	Glu	Ala	Val	Arg		
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Trp	Thr	Glu	Met	Ile	Arg	Ala	Ser	Arg	Glu	His	Pro	Ser	Val	Gln	Glu		
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Lys	Lys	Lys	Ser	Thr	Ile	Trp	Gln	Phe	Phe	Ser	Arg	Leu	Phe	Ser	Ser		
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Ser	Ser	Ser	Pro	Pro	Pro	Ala	Lys	Arg	Ser	Tyr	Pro	Ser	Val	Asn	Ile		
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His	Tyr	Lys	Ser	Pro	Thr	Ala	Ala	Gly	Phe	Ser	Gln	Arg	Arg	Ser	His		
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Ala	Leu	Cys	Gln	Ile	Ser	Ala	Gly	Ser	Arg	Pro	Leu	Glu	Phe	Phe	Pro		
		595					600					605					
Asp	Asp	Asp	Cys	Thr	Ser	Ser	Ala	Arg	Arg	Glu	Gln	Lys	Arg	Glu	Gln		
	610					615					620						
Tyr	Arg	Gln	Val	Arg	Glu	His	Val	Arg	Asn	Asp	Asp	Gly	Arg	Leu	Gln		
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Ala	Cys	Gly	Trp	Ser	Leu	Pro	Ala	Lys	Tyr	Lys	Gln	Leu	Ser	Pro	Asn		
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Gly	Gly	Gln	Glu	Asp	Thr	Arg	Met	Lys	Asn	Val	Pro	Val	Pro	Val	Tyr		
			660					665						670			
Cys	Arg	Pro	Leu	Val	Glu	Lys	Asp	Pro	Ser	Thr	Lys	Leu	Trp	Cys	Ala		
		675					680					685					
Ala	Gly	Val	Asn	Leu	Ser	Gly	Trp	Lys	Pro	His	Glu	Glu	Asp	Ser	Ser		
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Asn	Gly	Pro	Lys	Pro	Val	Pro	Gly	Arg	Asp	Pro	Leu	Thr	Cys	Asp	Arg		
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Glu	Gly	Glu	Gly	Glu	Pro	Lys	Ser	Thr	His	Pro	Ser	Pro	Glu	Lys	Lys		
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Lys	Ala	Lys	Glu	Thr	Pro	Glu	Ala	Asp	Ala	Thr	Ser	Ser	Arg	Val	Trp		
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Ile	Leu	Thr	Ser	Thr	Leu	Thr	Thr	Ser	Lys	Val	Val	Ile	Ile	Asp	Ala		
		755					760					765					
Asn	Gln	Pro	Gly	Thr	Ile	Val	Asp	Gln	Phe	Thr	Val	Cys	Asn	Ala	His		
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Val	Leu	Cys	Ile	Ser	Ser	Ile	Pro	Ala	Ala	Ser	Asp	Ser	Asp	Tyr	Pro		
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Pro	Gly	Glu	Met	Phe	Leu	Asp	Ser	Asp	Val	Asn	Pro	Glu	Asp	Ser	Gly		
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Ala Asp Gly Val Leu Ala Gly Ile Thr Leu Val Gly Cys Ala Thr Arg
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 Cys Asn Val Pro Arg Ser Asn Cys Ser Ser Arg Gly Asp Thr Pro Val
 835 840 845
 Leu Asp Lys Gly Gln Gly Asp Val Ala Thr Thr Ala Asn Gly Lys Val
 850 855 860
 Asn Pro Ser Gln Ser Thr Glu Glu Ala Thr Glu Ala Thr Glu Val Pro
 865 870 875 880
 Asp Pro Gly Pro Ser Glu Ser Glu Ala Thr Thr Val Arg Pro Gly Pro
 885 890 895
 Leu Thr Glu His Val Phe Thr Asp Pro Ala Pro Thr Pro Ser Ser Ser
 900 905 910
 Thr Gln Pro Ala Ser Glu Asn Gly Ser Glu Ser Asn Gly Thr Ile Val
 915 920 925
 Gln Pro Gln Val Glu Pro Ser Gly Glu Leu Ser Thr Thr Thr Ser Ser
 930 935 940
 Ala Ala Pro Thr Met Trp Leu Gly Ala Gln Asn Gly Trp Leu Tyr Val
 945 950 955 960
 His Ser Ala Val Ala Asn Trp Lys Lys Cys Leu His Ser Ile Lys Leu
 965 970 975
 Lys Asp Ser Val Leu Ser Leu Val His Val Lys Gly Arg Val Leu Val
 980 985 990
 Ala Leu Ala Asp Gly Thr Leu Ala Ile Phe His Arg Gly Glu Asp Gly
 995 1000 1005
 Gln Trp Asp Leu Ser Asn Tyr His Leu Met Asp Leu Gly His Pro His
 1010 1015 1020
 His Ser Ile Arg Cys Met Ala Val Val Asn Asp Arg Val Trp Cys Gly
 1025 1030 1035 1040
 Tyr Lys Asn Lys Val His Val Ile Gln Pro Lys Thr Met Gln Ile Glu
 1045 1050 1055
 Lys Ser Phe Asp Ala His Pro Arg Arg Glu Ser Gln Val Arg Gln Leu
 1060 1065 1070
 Ala Trp Ile Gly Asp Gly Val Trp Val Ser Ile Arg Leu Asp Ser Thr
 1075 1080 1085
 Leu Arg Leu Tyr His Ala His Thr His Gln His Leu Gln Asp Val Asp
 1090 1095 1100
 Ile Glu Pro Tyr Val Ser Lys Met Leu Gly Thr Gly Lys Leu Gly Phe
 1105 1110 1115 1120
 Ser Phe Val Arg Ile Thr Ala Leu Leu Ile Ala Gly Asn Arg Leu Trp
 1125 1130 1135

Val Gly Thr Gly Asn Gly Val Val Ile Ser Ile Pro Leu Thr Glu Thr
 1140 1145 1150
 Val Val Leu His Arg Gly Gln Leu Leu Gly Leu Arg Ala Asn Lys Thr
 1155 1160 1165
 Ser Pro Thr Ser Gly Glu Gly Thr Arg Pro Gly Gly Ile Ile His Val
 1170 1175 1180
 Tyr Gly Asp Asp Ser Ser Asp Lys Ala Ala Ser Ser Phe Ile Pro Tyr
 1185 1190 1195 1200
 Cys Ser Met Ala Gln Ala Gln Leu Cys Phe His Gly His Arg Asp Ala
 1205 1210 1215
 Val Lys Phe Phe Val Ser Val Pro Gly Asn Val Leu Ala Thr Leu Asn
 1220 1225 1230
 Gly Ser Val Leu Asp Ser Pro Ser Glu Gly Pro Gly Pro Ala Ala Pro
 1235 1240 1245
 Ala Ala Asp Ala Glu Gly Gln Lys Leu Lys Asn Ala Leu Val Leu Ser
 1250 1255 1260
 Gly Gly Glu Gly Tyr Ile Asp Phe Arg Ile Gly Asp Gly Glu Asp Asp
 1265 1270 1275 1280
 Glu Thr Glu Glu Cys Ala Gly Asp Val Asn Gln Thr Lys Pro Ser Leu
 1285 1290 1295
 Ser Lys Ala Glu Arg Ser His Ile Ile Val Trp Gln Val Ser Tyr Thr
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 Pro Glu

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 <212> PRT
 <213> Mouse

<400> 11
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 Asp Asp Tyr Cys Ser Gly Ser Val Met Ser Glu Arg Val Ser Gly Leu
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 Ala Gly Ser Ile Tyr Arg Glu Phe Glu Arg Leu Ile His Cys Tyr Asp
 35 40 45
 Glu Glu Val Val Lys Glu Leu Met Pro Leu Val Val Asn Val Leu Glu
 50 55 60
 Asn Leu Asp Ser Val Leu Ser Glu Asn Gln Glu His Glu Val Glu Leu
 65 70 75 80
 Glu Leu Leu Arg Glu Asp Asn Glu Gln Leu Leu Thr Gln Tyr Glu Arg

Glu Lys Ala Leu Arg Lys Gln Ala Glu Glu Lys Phe Ile Glu Phe Glu
 100 105 110
 Asp Ala Leu Glu Gln Glu Lys Lys Glu Leu Gln Ile Gln Val Glu His
 115 120 125
 Tyr Glu Phe Gln Thr Arg Gln Leu Glu Leu Lys Ala Lys Asn Tyr Ala
 130 135 140
 Asp Gln Ile Ser Arg Leu Glu Glu Arg Glu Ser Glu Met Lys Lys Glu
 145 150 155 160
 Tyr Asn Ala Leu His Gln Arg His Thr Glu Met Ile Gln Thr Tyr Val
 165 170 175
 Glu His Ile Glu Arg Ser Lys Met Gln Gln Val Gly Gly Ser Gly Gln
 180 185 190
 Thr Glu Ser Ser Leu Pro Gly Arg Ser Arg Lys Glu Arg Pro Thr Ser
 195 200 205
 Leu Asn Val Phe Pro Leu Ala Asp Gly Met Val Arg Ala Gln Met Gly
 210 215 220
 Gly Lys Leu Val Pro Ala Gly Asp His Trp His Leu Ser Asp Leu Gly
 225 230 235 240
 Gln Leu Gln Ser Ser Ser Ser Tyr Gln Cys Pro Asn Asp Glu Met Ser
 245 250 255
 Glu Ser Gly Gln Ser Ser Ala Ala Ala Thr Pro Ser Thr Thr Gly Thr
 260 265 270
 Lys Ser Asn Thr Pro Thr Ser Ser Val Pro Ser Ala Ala Val Thr Pro
 275 280 285
 Leu Asn Glu Ser Leu Gln Pro Leu Gly Asp Tyr Val Ser Val Thr Lys
 290 295 300
 Asn Asn Lys Gln Ala Arg Glu Lys Arg Asn Ser Arg Asn Met Glu Val
 305 310 315 320
 Gln Val Thr Gln Glu Met Arg Asn Val Ser Ile Gly Met Gly Ser Ser
 325 330 335
 Asp Glu Trp Ser Asp Val Gln Asp Ile Ile Asp Ser Thr Pro Glu Leu
 340 345 350
 Asp Val Cys Pro Glu Thr Arg Leu Glu Arg Thr Gly Ser Ser Pro Thr
 355 360 365
 Gln Gly Ile Val Asn Lys Ala Phe Gly Ile Asn Thr Asp Ser Leu Tyr
 370 375 380
 His Glu Leu Ser Thr Ala Gly Ser Glu Val Ile Gly Asp Val Asp Glu
 385 390 395 400
 Gly Ala Asp Leu Leu Gly Glu Phe Ser Val Arg Asp Asp Phe Phe Gly

405										410					415				
Met	Gly	Lys	Glu	Val	Gly	Asn	Leu	Leu	Leu	Glu	Asn	Ser	Gln	Leu	Leu				
			420					425					430						
Glu	Thr	Lys	Asn	Ala	Leu	Asn	Val	Val	Lys	Asn	Asp	Leu	Ile	Ala	Lys				
		435					440					445							
Val	Asp	Gln	Leu	Ser	Gly	Glu	Gln	Glu	Val	Leu	Lys	Gly	Glu	Leu	Glu				
	450					455					460								
Ala	Ala	Lys	Gln	Ala	Lys	Val	Lys	Leu	Glu	Asn	Arg	Ile	Lys	Glu	Leu				
465					470					475					480				
Glu	Glu	Glu	Leu	Lys	Arg	Val	Lys	Ser	Glu	Ala	Val	Thr	Ala	Arg	Arg				
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Glu	Pro	Arg	Glu	Glu	Val	Glu	Asp	Val	Ser	Ser	Tyr	Leu	Cys	Thr	Glu				
			500					505					510						
Leu	Asp	Lys	Ile	Pro	Met	Ala	Gln	Arg	Arg	Arg	Phe	Thr	Arg	Val	Glu				
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Glu	Leu	Gln	Glu	Ala	Val	Arg	Trp	Thr	Glu	Met	Ile	Arg	Ala	Ser	Arg				
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Phe	Ser	Arg	Leu	Phe	Ser	Ser	Ser	Ser	Ser	Pro	Pro	Pro	Ala	Lys	Arg				
			580					585					590						
Ser	Tyr	Pro	Ser	Val	Asn	Ile	His	Tyr	Lys	Ser	Pro	Thr	Ala	Ala	Gly				
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Arg	Pro	Leu	Glu	Phe	Phe	Pro	Asp	Asp	Asp	Cys	Thr	Ser	Ser	Ala	Arg				
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Arg	Glu	Gln	Lys	Arg	Glu	Gln	Tyr	Arg	Gln	Val	Arg	Glu	His	Val	Arg				
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Asn	Asp	Asp	Gly	Arg	Leu	Gln	Ala	Cys	Gly	Trp	Ser	Leu	Pro	Ala	Lys				
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Tyr	Lys	Gln	Leu	Ser	Pro	Asn	Gly	Gly	Gln	Glu	Asp	Thr	Arg	Met	Lys				
		675					680					685							
Asn	Val	Pro	Val	Pro	Val	Tyr	Cys	Arg	Pro	Leu	Val	Glu	Lys	Asp	Pro				
	690					695					700								
Ser	Thr	Lys	Leu	Trp	Cys	Ala	Ala	Gly	Val	Asn	Leu	Ser	Gly	Trp	Lys				
705					710					715					720				
Pro	His	Glu	Glu	Asp	Ser	Ser	Asn	Gly	Pro	Lys	Pro	Val	Pro	Gly	Arg				

725										730					735															
Asp	Pro	Leu	Thr	Cys	Asp	Arg	Glu	Gly	Glu	Gly	Glu	Pro	Lys	Ser	Thr															
			740					745					750																	
His	Pro	Ser	Pro	Glu	Lys	Lys	Lys	Ala	Lys	Glu	Thr	Pro	Glu	Ala	Asp															
		755					760						765																	
Ala	Thr	Ser	Ser	Arg	Val	Trp	Ile	Leu	Thr	Ser	Thr	Leu	Thr	Thr	Ser															
	770					775					780																			
Lys	Val	Val	Ile	Ile	Asp	Ala	Asn	Gln	Pro	Gly	Thr	Ile	Val	Asp	Gln															
785					790					795					800															
Phe	Thr	Val	Cys	Asn	Ala	His	Val	Leu	Cys	Ile	Ser	Ser	Ile	Pro	Ala															
				805					810					815																
Ala	Ser	Asp	Ser	Asp	Tyr	Pro	Pro	Gly	Glu	Met	Phe	Leu	Asp	Ser	Asp															
			820					825					830																	
Val	Asn	Pro	Glu	Asp	Ser	Gly	Ala	Asp	Gly	Val	Leu	Ala	Gly	Ile	Thr															
		835					840					845																		
Leu	Val	Gly	Cys	Ala	Thr	Arg	Cys	Asn	Val	Pro	Arg	Ser	Asn	Cys	Ser															
	850					855					860																			
Ser	Arg	Gly	Asp	Thr	Pro	Val	Leu	Asp	Lys	Gly	Gln	Gly	Asp	Val	Ala															
865					870					875				880																
Thr	Thr	Ala	Asn	Gly	Lys	Val	Asn	Pro	Ser	Gln	Ser	Thr	Glu	Glu	Ala															
				885					890					895																
Thr	Glu	Ala	Thr	Glu	Val	Pro	Asp	Pro	Gly	Pro	Ser	Glu	Ser	Glu	Ala															
			900					905					910																	
Thr	Thr	Val	Arg	Pro	Gly	Pro	Leu	Thr	Glu	His	Val	Phe	Thr	Asp	Pro															
		915					920					925																		
Ala	Pro	Thr	Pro	Ser	Ser	Ser	Thr	Gln	Pro	Ala	Ser	Glu	Asn	Gly	Ser															
		930				935					940																			
Glu	Ser	Asn	Gly	Thr	Ile	Val	Gln	Pro	Gln	Val	Glu	Pro	Ser	Gly	Glu															
945					950					955					960															
Leu	Ser	Thr	Thr	Thr	Ser	Ser	Ala	Ala	Pro	Thr	Met	Trp	Leu	Gly	Ala															
				965					970					975																
Gln	Asn	Gly	Trp	Leu	Tyr	Val	His	Ser	Ala	Val	Ala	Asn	Trp	Lys	Lys															
			980					985					990																	
Cys	Leu	His	Ser	Ile	Lys	Leu	Lys	Asp	Ser	Val	Leu	Ser	Leu	Val	His															
		995				1000						1005																		
Val	Lys	Gly	Arg	Val	Leu	Val	Ala	Leu	Ala	Asp	Gly	Thr	Leu	Ala	Ile															
	1010				1015						1020																			
Phe	His	Arg	Gly	Glu	Asp	Gly	Gln	Trp	Asp	Leu	Ser	Asn	Tyr	His	Leu															
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Met	Asp	Leu	Gly	His	Pro	His	His	Ser	Ile	Arg	Cys	Met	Ala	Val	Val															

1045					1050					1055					
Asn	Asp	Arg	Val	Trp	Cys	Gly	Tyr	Lys	Asn	Lys	Val	His	Val	Ile	Gln
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Pro	Lys	Thr	Met	Gln	Ile	Glu	Lys	Ser	Phe	Asp	Ala	His	Pro	Arg	Arg
		1075					1080					1085			
Glu	Ser	Gln	Val	Arg	Gln	Leu	Ala	Trp	Ile	Gly	Asp	Gly	Val	Trp	Val
	1090					1095					1100				
Ser	Ile	Arg	Leu	Asp	Ser	Thr	Leu	Arg	Leu	Tyr	His	Ala	His	Thr	His
	1105					1110					1115				1120
Gln	His	Leu	Gln	Asp	Val	Asp	Ile	Glu	Pro	Tyr	Val	Ser	Lys	Met	Leu
			1125					1130						1135	
Gly	Thr	Gly	Lys	Leu	Gly	Phe	Ser	Phe	Val	Arg	Ile	Thr	Ala	Leu	Leu
			1140					1145					1150		
Ile	Ala	Gly	Asn	Arg	Leu	Trp	Val	Gly	Thr	Gly	Asn	Gly	Val	Val	Ile
	1155					1160					1165				
Ser	Ile	Pro	Leu	Thr	Glu	Thr	Val	Val	Leu	His	Arg	Gly	Gln	Leu	Leu
	1170					1175					1180				
Gly	Leu	Arg	Ala	Asn	Lys	Thr	Ser	Pro	Thr	Ser	Gly	Glu	Gly	Thr	Arg
	1185					1190					1195				1200
Pro	Gly	Gly	Ile	Ile	His	Val	Tyr	Gly	Asp	Asp	Ser	Ser	Asp	Lys	Ala
			1205					1210						1215	
Ala	Ser	Ser	Phe	Ile	Pro	Tyr	Cys	Ser	Met	Ala	Gln	Ala	Gln	Leu	Cys
			1220					1225					1230		
Phe	His	Gly	His	Arg	Asp	Ala	Val	Lys	Phe	Phe	Val	Ser	Val	Pro	Gly
	1235					1240						1245			
Asn	Val	Leu	Ala	Thr	Leu	Asn	Gly	Ser	Val	Leu	Asp	Ser	Pro	Ser	Glu
	1250					1255					1260				
Gly	Pro	Gly	Pro	Ala	Ala	Pro	Ala	Ala	Asp	Ala	Glu	Gly	Gln	Lys	Leu
	1265					1270					1275				1280
Lys	Asn	Ala	Leu	Val	Leu	Ser	Gly	Gly	Glu	Gly	Tyr	Ile	Asp	Phe	Arg
			1285					1290					1295		
Ile	Gly	Asp	Gly	Glu	Asp	Asp	Glu	Thr	Glu	Glu	Cys	Ala	Gly	Asp	Val
			1300					1305					1310		
Asn	Gln	Thr	Lys	Pro	Ser	Leu	Ser	Lys	Ala	Glu	Arg	Ser	His	Ile	Ile
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Val	Trp	Gln	Val	Ser	Tyr	Thr	Pro	Glu							
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 <212> PRT

<213> Mouse

<400> 12

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			20					25					30		
Ala	Gly	Ser	Ile	Tyr	Arg	Glu	Phe	Glu	Arg	Leu	Ile	His	Cys	Tyr	Asp
		35					40					45			
Glu	Glu	Val	Val	Lys	Glu	Leu	Met	Pro	Leu	Val	Val	Asn	Val	Leu	Glu
	50					55					60				
Asn	Leu	Asp	Ser	Val	Leu	Ser	Glu	Asn	Gln	Glu	His	Glu	Val	Glu	Leu
65					70					75					80
Glu	Leu	Leu	Arg	Glu	Asp	Asn	Glu	Gln	Leu	Leu	Thr	Gln	Tyr	Glu	Arg
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Glu	Lys	Ala	Leu	Arg	Lys	Gln	Ala	Glu	Glu	Lys	Phe	Ile	Glu	Phe	Glu
			100					105					110		
Asp	Ala	Leu	Glu	Gln	Glu	Lys	Lys	Glu	Leu	Gln	Ile	Gln	Val	Glu	His
		115					120					125			
Tyr	Glu	Phe	Gln	Thr	Arg	Gln	Leu	Glu	Leu	Lys	Ala	Lys	Asn	Tyr	Ala
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Asp	Gln	Ile	Ser	Arg	Leu	Glu	Glu	Arg	Glu	Ser	Glu	Met	Lys	Lys	Glu
145					150					155					160
Tyr	Asn	Ala	Leu	His	Gln	Arg	His	Thr	Glu	Met	Ile	Gln	Thr	Tyr	Val
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Glu	His	Ile	Glu	Arg	Ser	Lys	Met	Gln	Gln	Val	Gly	Gly	Ser	Gly	Gln
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Thr	Glu	Ser	Ser	Leu	Pro	Gly	Arg	Arg	Lys	Glu	Arg	Pro	Thr	Ser	Leu
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Asn	Val	Phe	Pro	Leu	Ala	Asp	Gly	Met	Val	Arg	Ala	Gln	Met	Gly	Gly
	210					215					220				
Lys	Leu	Val	Pro	Ala	Gly	Asp	His	Trp	His	Leu	Ser	Asp	Leu	Gly	Gln
225					230					235					240
Leu	Gln	Ser	Ser	Ser	Ser	Tyr	Gln	Cys	Pro	Asn	Asp	Glu	Met	Ser	Glu
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Ser	Gly	Gln	Ser	Ser	Ala	Ala	Ala	Thr	Pro	Ser	Thr	Thr	Gly	Thr	Lys
			260					265					270		
Ser	Asn	Thr	Pro	Thr	Ser	Ser	Val	Pro	Ser	Ala	Ala	Val	Thr	Pro	Leu
		275					280					285			
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	290					295					300				

Asn Lys Gln Ala Arg Glu Lys Arg Asn Ser Arg Asn Met Glu Val Gln
 305 310 315 320
 Val Thr Gln Glu Met Arg Asn Val Ser Ile Gly Met Gly Ser Ser Asp
 325 330 335
 Glu Trp Ser Asp Val Gln Asp Ile Ile Asp Ser Thr Pro Glu Leu Asp
 340 345 350
 Val Cys Pro Glu Thr Arg Leu Glu Arg Thr Gly Ser Ser Pro Thr Gln
 355 360 365
 Gly Ile Val Asn Lys Ala Phe Gly Ile Asn Thr Asp Ser Leu Tyr His
 370 375 380
 Glu Leu Ser Thr Ala Gly Ser Glu Val Ile Gly Asp Val Asp Glu Gly
 385 390 395 400
 Ala Asp Leu Leu Gly Glu Phe Ser Val Arg Asp Asp Phe Phe Gly Met
 405 410 415
 Gly Lys Glu Val Gly Asn Leu Leu Leu Glu Asn Ser Gln Leu Leu Glu
 420 425 430
 Thr Lys Asn Ala Leu Asn Val Val Lys Asn Asp Leu Ile Ala Lys Val
 435 440 445
 Asp Gln Leu Ser Gly Glu Gln Glu Val Leu Lys Gly Glu Leu Glu Ala
 450 455 460
 Ala Lys Gln Ala Lys Val Lys Leu Glu Asn Arg Ile Lys Glu Leu Glu
 465 470 475 480
 Glu Glu Leu Lys Arg Val Lys Ser Glu Ala Val Thr Ala Arg Arg Glu
 485 490 495
 Pro Arg Glu Glu Val Glu Asp Val Ser Ser Tyr Leu Cys Thr Glu Leu
 500 505 510
 Asp Lys Ile Pro Met Ala Gln Arg Arg Arg Phe Thr Arg Val Glu Met
 515 520 525
 Ala Arg Val Leu Met Glu Arg Asn Gln Tyr Lys Glu Arg Leu Met Glu
 530 535 540
 Leu Gln Glu Ala Val Arg Trp Thr Glu Met Ile Arg Ala Ser Arg Glu
 545 550 555 560
 His Pro Ser Val Gln Glu Lys Lys Lys Ser Thr Ile Trp Gln Phe Phe
 565 570 575
 Ser Arg Leu Phe Ser Ser Ser Ser Ser Pro Pro Pro Ala Lys Arg Ser
 580 585 590
 Tyr Pro Ser Val Asn Ile His Tyr Lys Ser Pro Thr Ala Ala Gly Phe
 595 600 605
 Ser Gln Arg Arg Ser His Ala Leu Cys Gln Ile Ser Ala Gly Ser Arg
 610 615 620

Pro	Leu	Glu	Phe	Phe	Pro	Asp	Asp	Asp	Cys	Thr	Ser	Ser	Ala	Arg	Arg	625	630	635	640
Glu	Gln	Lys	Arg	Glu	Gln	Tyr	Arg	Gln	Val	Arg	Glu	His	Val	Arg	Asn	645	650	655	
Asp	Asp	Gly	Arg	Leu	Gln	Ala	Cys	Gly	Trp	Ser	Leu	Pro	Ala	Lys	Tyr	660	665	670	
Lys	Gln	Leu	Ser	Pro	Asn	Gly	Gly	Gln	Glu	Asp	Thr	Arg	Met	Lys	Asn	675	680	685	
Val	Pro	Val	Pro	Val	Tyr	Cys	Arg	Pro	Leu	Val	Glu	Lys	Asp	Pro	Ser	690	695	700	
Thr	Lys	Leu	Trp	Cys	Ala	Ala	Gly	Val	Asn	Leu	Ser	Gly	Trp	Lys	Pro	705	710	715	720
His	Glu	Glu	Asp	Ser	Ser	Asn	Gly	Pro	Lys	Pro	Val	Pro	Gly	Arg	Asp	725	730	735	
Pro	Leu	Thr	Cys	Asp	Arg	Glu	Gly	Glu	Gly	Glu	Pro	Lys	Ser	Thr	His	740	745	750	
Pro	Ser	Pro	Glu	Lys	Lys	Lys	Ala	Lys	Glu	Thr	Pro	Glu	Ala	Asp	Ala	755	760	765	
Thr	Ser	Ser	Arg	Val	Trp	Ile	Leu	Thr	Ser	Thr	Leu	Thr	Thr	Ser	Lys	770	775	780	
Val	Val	Ile	Ile	Asp	Ala	Asn	Gln	Pro	Gly	Thr	Ile	Val	Asp	Gln	Phe	785	790	795	800
Thr	Val	Cys	Asn	Ala	His	Val	Leu	Cys	Ile	Ser	Ser	Ile	Pro	Ala	Ala	805	810	815	
Ser	Asp	Ser	Asp	Tyr	Pro	Pro	Gly	Glu	Met	Phe	Leu	Asp	Ser	Asp	Val	820	825	830	
Asn	Pro	Glu	Asp	Ser	Gly	Ala	Asp	Gly	Val	Leu	Ala	Gly	Ile	Thr	Leu	835	840	845	
Val	Gly	Cys	Ala	Thr	Arg	Cys	Asn	Val	Pro	Arg	Ser	Asn	Cys	Ser	Ser	850	855	860	
Arg	Gly	Asp	Thr	Pro	Val	Leu	Asp	Lys	Gly	Gln	Gly	Asp	Val	Ala	Thr	865	870	875	880
Thr	Ala	Asn	Gly	Lys	Val	Asn	Pro	Ser	Gln	Ser	Thr	Glu	Glu	Ala	Thr	885	890	895	
Glu	Ala	Thr	Glu	Val	Pro	Asp	Pro	Gly	Pro	Ser	Glu	Ser	Glu	Ala	Thr	900	905	910	
Thr	Val	Arg	Pro	Gly	Pro	Leu	Thr	Glu	His	Val	Phe	Thr	Asp	Pro	Ala	915	920	925	
Pro	Thr	Pro	Ser	Ser	Ser	Thr	Gln	Pro	Ala	Ser	Glu	Asn	Gly	Ser	Glu	930	935	940	

Ser Asn Gly Thr Ile Val Gln Pro Gln Val Glu Pro Ser Gly Glu Leu
 945 950 955 960
 Ser Thr Thr Thr Ser Ser Ala Ala Pro Thr Met Trp Leu Gly Ala Gln
 965 970 975
 Asn Gly Trp Leu Tyr Val His Ser Ala Val Ala Asn Trp Lys Lys Cys
 980 985 990
 Leu His Ser Ile Lys Leu Lys Asp Ser Val Leu Ser Leu Val His Val
 995 1000 1005
 Lys Gly Arg Val Leu Val Ala Leu Ala Asp Gly Thr Leu Ala Ile Phe
 1010 1015 1020
 His Arg Gly Glu Asp Gly Gln Trp Asp Leu Ser Asn Tyr His Leu Met
 1025 1030 1035 1040
 Asp Leu Gly His Pro His His Ser Ile Arg Cys Met Ala Val Val Asn
 1045 1050 1055
 Asp Arg Val Trp Cys Gly Tyr Lys Asn Lys Val His Val Ile Gln Pro
 1060 1065 1070
 Lys Thr Met Gln Ile Glu Lys Ser Phe Asp Ala His Pro Arg Arg Glu
 1075 1080 1085
 Ser Gln Val Arg Gln Leu Ala Trp Ile Gly Asp Gly Val Trp Val Ser
 1090 1095 1100
 Ile Arg Leu Asp Ser Thr Leu Arg Leu Tyr His Ala His Thr His Gln
 1105 1110 1115 1120
 His Leu Gln Asp Val Asp Ile Glu Pro Tyr Val Ser Lys Met Leu Gly
 1125 1130 1135
 Thr Gly Lys Leu Gly Phe Ser Phe Val Arg Ile Thr Ala Leu Leu Ile
 1140 1145 1150
 Ala Gly Asn Arg Leu Trp Val Gly Thr Gly Asn Gly Val Val Ile Ser
 1155 1160 1165
 Ile Pro Leu Thr Glu Thr Val Val Leu His Arg Gly Gln Leu Leu Gly
 1170 1175 1180
 Leu Arg Ala Asn Lys Thr Ser Pro Thr Ser Gly Glu Gly Thr Arg Pro
 1185 1190 1195 1200
 Gly Gly Ile Ile His Val Tyr Gly Asp Asp Ser Ser Asp Lys Ala Ala
 1205 1210 1215
 Ser Ser Phe Ile Pro Tyr Cys Ser Met Ala Gln Ala Gln Leu Cys Phe
 1220 1225 1230
 His Gly His Arg Asp Ala Val Lys Phe Phe Val Ser Val Pro Gly Asn
 1235 1240 1245
 Val Leu Ala Thr Leu Asn Gly Ser Val Leu Asp Ser Pro Ser Glu Gly
 1250 1255 1260

Pro Gly Pro Ala Ala Pro Ala Ala Asp Ala Glu Gly Gln Lys Leu Lys
 1265 1270 1275 1280

Asn Ala Leu Val Leu Ser Gly Gly Glu Gly Tyr Ile Asp Phe Arg Ile
 1285 1290 1295

Gly Asp Gly Glu Asp Asp Glu Thr Glu Glu Cys Ala Gly Asp Val Asn
 1300 1305 1310

Gln Thr Lys Pro Ser Leu Ser Lys Ala Glu Arg Ser His Ile Ile Val
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Trp Gln Val Ser Tyr Thr Pro Glu
 1330 1335

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Ile Leu Lys Asp Val Ala Thr Val Ala Phe Cys Asp Ala Gln Ser Thr
 35 40 45

Gln Glu Ile His Glu Lys Val Leu Asn Glu Ala Val Gly Ala Leu Met
 50 55 60

Tyr His Thr Ile Thr Leu Thr Arg Glu Asp Leu Glu Lys Phe Lys Ala
 65 70 75 80

Leu Arg Ile Ile Val Arg Ile Gly Ser Gly Phe Asp Asn Ile Asp Ile
 85 90 95

Lys Ser Ala Gly Asp Leu Gly Ile Ala Val Cys Asn Val Pro Ala Ala
 100 105 110

Ser Val Glu Glu Thr Ala Asp Ser Thr Leu Cys His Ile Leu Asn Leu
 115 120 125

Tyr Arg Arg Thr Thr Trp Leu His Gln Ala Leu Arg Glu Gly Thr Arg
 130 135 140

Val Gln Ser Val Glu Gln Ile Arg Glu Val Ala Ser Gly Ala Ala Arg
 145 150 155 160

Ile Arg Gly Glu Thr Leu Gly Ile Ile Gly Leu Gly Arg Val Gly Gln
 165 170 175

Ala Val Ala Leu Arg Ala Lys Ala Phe Gly Phe Asn Val Leu Phe Tyr
 180 185 190

Asp Pro Tyr Leu Ser Asp Gly Ile Glu Arg Ala Leu Gly Leu Gln Arg
 195 200 205

Val Ser Thr Leu Gln Asp Leu Leu Phe His Ser Asp Cys Val Thr Leu
 210 215 220
 His Cys Gly Leu Asn Glu His Asn His His Leu Ile Asn Asp Phe Thr
 225 230 235 240
 Val Lys Gln Met Arg Gln Gly Ala Phe Leu Val Asn Thr Ala Arg Gly
 245 250 255
 Gly Leu Val Asp Glu Lys Ala Val Ala Gln Ala Leu Lys Glu Gly Arg
 260 265 270
 Ile Arg Gly Ala Ala Leu Asp Val His Glu Ser Glu Pro Phe Ser Phe
 275 280 285
 Ser Gln Gly Pro Leu Lys Asp Ala Pro Asn Leu Ile Cys Thr Pro His
 290 295 300
 Ala Ala Trp Tyr Ser Glu Gln Ala Ser Ile Glu Met Arg Glu Glu Ala
 305 310 315 320
 Ala Arg Glu Ile Arg Arg Ala Ile Thr Gly Arg Ile Pro Asp Ser Leu
 325 330 335
 Lys Asn Cys Val Asn Lys Asp His Leu Thr Ala Ala Thr His Trp Ala
 340 345 350
 Ser Met Asp Pro Ala Val Val His Pro Glu Leu Asn Gly Ala Ala Tyr
 355 360 365
 Ser Arg Tyr Pro Pro Gly Val Val Ser Val Ala Pro Thr Gly Ile Pro
 370 375 380
 Ala Ala Val Glu Gly Ile Val Pro Ser Ala Met Ser Leu Ser His Gly
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 Leu Pro Pro Val Ala His Pro Pro His Ala Pro Ser Pro Gly Gln Thr
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 Val Lys Pro Glu Ala Asp Arg Asp His Thr Ser Asp Gln Leu
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 Arg Glu Asp Leu Ser Ser Lys Val Thr Leu Glu Lys Val Leu Gly Val
 35 40 45
 Thr Val Ser Gly Gly Arg Gly Leu Ala Cys Glu Pro Arg Ser Gly Leu

50

55

60

Val	Ala	Tyr	Pro	Ala	Gly	Cys	Val	Val	Val	Leu	Phe	Asn	Pro	Arg	Lys
65					70					75					80
His	Lys	Gln	His	His	Ile	Leu	Asn	Ser	Ser	Arg	Lys	Thr	Ile	Thr	Ala
				85					90						95
Leu	Ala	Phe	Ser	Pro	Asp	Gly	Lys	Tyr	Leu	Val	Thr	Gly	Glu	Ser	Gly
			100					105					110		
His	Met	Pro	Ala	Val	Arg	Val	Trp	Asp	Val	Ala	Glu	Arg	Ser	Gln	Val
		115					120					125			
Ala	Glu	Leu	Gln	Glu	His	Lys	Tyr	Gly	Val	Ala	Cys	Val	Ala	Phe	Ser
	130					135					140				
Pro	Ser	Ala	Lys	Tyr	Ile	Val	Ser	Val	Gly	Tyr	Gln	His	Asp	Met	Ile
145					150					155					160
Val	Asn	Val	Trp	Ala	Trp	Lys	Lys	Asn	Ile	Val	Val	Ala	Ser	Asn	Lys
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Val	Ser	Ser	Arg	Val	Thr	Ala	Val	Ser	Phe	Ser	Glu	Asp	Cys	Ser	Tyr
			180					185					190		
Phe	Val	Thr	Ala	Gly	Asn	Arg	His	Ile	Lys	Phe	Trp	Tyr	Leu	Asp	Asp
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Ser	Lys	Thr	Ser	Lys	Val	Asn	Ala	Thr	Val	Pro	Leu	Leu	Gly	Arg	Ser
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Gly	Leu	Leu	Gly	Glu	Leu	Arg	Asn	Asn	Leu	Phe	Thr	Asp	Val	Ala	Cys
225					230					235					240
Gly	Arg	Gly	Glu	Lys	Ala	Asp	Ser	Thr	Phe	Cys	Ile	Thr	Ser	Ser	Gly
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Leu	Leu	Cys	Glu	Phe	Ser	Asp	Arg	Arg	Leu	Leu	Asp	Lys	Trp	Val	Glu
			260					265					270		
Leu	Arg	Asn	Thr	Asp	Ser	Phe	Thr	Thr	Thr	Val	Ala	His	Cys	Ile	Ser
		275					280					285			
Val	Thr	Gln	Glu	Tyr	Ile	Phe	Cys	Gly	Cys	Ala	Asp	Gly	Thr	Val	Arg
	290					295					300				
Leu	Phe	Asn	Pro	Ser	Asn	Leu	His	Phe	Leu	Ser	Thr	Leu	Pro	Arg	Pro
305					310					315					320
His	Ala	Leu	Gly	Thr	Asp	Ile	Ala	Ser	Ile	Thr	Glu	Ala	Ser	Arg	Leu
				325					330					335	
Phe	Ser	Gly	Gly	Val	Asn	Ala	Arg	Tyr	Pro	Asp	Thr	Ile	Ala	Leu	Thr
			340					345					350		
Phe	Asp	Pro	Thr	Asn	Gln	Trp	Leu	Ser	Cys	Val	Tyr	Asn	Asp	His	Ser
		355					360					365			
Ile	Tyr	Val	Trp	Asp	Val	Arg	Asp	Pro	Lys	Lys	Val	Gly	Lys	Val	Tyr

370					375					380					
Ser	Ala	Leu	Tyr	His	Ser	Ser	Cys	Val	Trp	Ser	Val	Glu	Val	Tyr	Pro
385					390					395					400
Glu	Ile	Lys	Asp	Ser	His	Gln	Ala	Cys	Leu	Pro	Leu	Ser	Ser	Phe	Ile
				405					410					415	
Thr	Cys	Ser	Ser	Asp	Asn	Thr	Ile	Arg	Leu	Trp	Asn	Thr	Glu	Ser	Ser
			420					425					430		
Gly	Val	His	Gly	Ser	Thr	Leu	His	Arg	Asn	Ile	Leu	Ser	Asn	Asp	Leu
		435					440					445			
Ile	Lys	Ile	Ile	Tyr	Val	Asp	Gly	Asn	Thr	Gln	Ala	Leu	Leu	Asp	Thr
	450					455					460				
Glu	Leu	Pro	Gly	Gly	Asp	Lys	Ala	Asp	Gly	Ser	Leu	Met	Asp	Pro	Arg
465					470					475					480
Val	Gly	Ile	Arg	Ser	Val	Cys	Ile	Ser	Pro	Asn	Gly	Gln	His	Leu	Ala
				485					490					495	
Ser	Gly	Asp	Arg	Met	Gly	Thr	Leu	Arg	Ile	His	Glu	Leu	Gln	Ser	Leu
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Ser	Glu	Met	Leu	Lys	Val	Glu	Ala	His	Asp	Ser	Glu	Ile	Leu	Cys	Leu
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Glu	Tyr	Ser	Lys	Pro	Asp	Thr	Gly	Leu	Lys	Leu	Leu	Ala	Ser	Ala	Ser
	530					535						540			
Arg	Asp	Arg	Leu	Ile	His	Glu	Leu	Asp	Ala	Gly	Arg	Glu	Tyr	Ser	Leu
545					550					555					560
Gln	Gln	Thr	Leu	Asp	Glu	His	Ser	Ser	Ser	Ile	Thr	Ala	Val	Lys	Phe
			565						570					575	
Ala	Ala	Ser	Asp	Gly	Gln	Val	Arg	Met	Ile	Ser	Cys	Gly	Ala	Asp	Lys
			580					585					590		
Ser	Ile	Tyr	Phe	Arg	Thr	Ala	Gln	Lys	Ser	Gly	Glu	Gly	Val	Gln	Phe
		595					600					605			
Thr	Arg	Thr	His	His	Val	Val	Arg	Lys	Thr	Thr	Leu	Tyr	Asp	Met	Asp
	610					615					620				
Val	Glu	Pro	Ser	Trp	Lys	Tyr	Thr	Ala	Ile	Gly	Cys	Gln	Asp	Arg	Asn
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Ile	Arg	Ile	Phe	Asn	Ile	Ser	Ser	Gly	Lys	Gln	Lys	Lys	Leu	Phe	Lys
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Gly	Ser	Gln	Gly	Glu	Asp	Gly	Thr	Leu	Ile	Lys	Val	Gln	Thr	Asp	Pro
			660					665					670		
Ser	Gly	Ile	Tyr	Ile	Ala	Thr	Ser	Cys	Ser	Asp	Lys	Asn	Leu	Ser	Ile
		675					680					685			
Phe	Asp	Phe	Ser	Ser	Gly	Glu	Cys	Val	Ala	Thr	Met	Phe	Gly	His	Ser

690					695					700					
Glu	Ile	Val	Thr	Gly	Met	Lys	Phe	Ser	Asn	Asp	Cys	Lys	His	Leu	Ile
705					710					715					720
Ser	Val	Ser	Gly	Asp	Ser	Cys	Ile	Phe	Val	Trp	Arg	Leu	Ser	Ser	Glu
				725					730					735	
Met	Thr	Ile	Ser	Met	Arg	Gln	Arg	Leu	Arg	Glu	Arg	Arg	Gln	Arg	Gln
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Arg	Gly	Ile	Lys	Gln	Gln	Gly	Pro	Thr	Ser	Pro	Gln	Arg	Ala	Ser	Gly
		755					760					765			
Ala	Lys	Gln	His	His	Ala	Pro	Val	Val	Pro	Pro	Ser	Gly	Pro	Ala	Leu
	770					775					780				
Ser	Ser	Asp	Ser	Asp	Lys	Glu	Gly	Glu	Asp	Glu	Gly	Thr	Glu	Glu	Glu
785					790					795					800
Glu	Leu	Pro	Ala	Leu	Pro	Ile	Leu	Ser	Lys	Ser	Thr	Lys	Lys	Glu	Leu
				805					810					815	
Ala	Ser	Gly	Ser	Ser	Pro	Ala	Leu	Leu	Arg	Ser	Leu	Ser	His	Trp	Glu
			820					825					830		
Met	Ser	Arg	Ala	Gln	Glu	Thr	Met	Glu	Tyr	Leu	Asp	Pro	Ala	Pro	Val
		835					840					845			
Ala	Asn	Thr	Gly	Pro	Lys	Arg	Arg	Gly	Arg	Trp	Ala	Gln	Pro	Gly	Val
	850					855					860				
Glu	Leu	Ser	Val	Arg	Ser	Met	Leu	Asp	Leu	Arg	Gln	Ile	Glu	Thr	Leu
865					870					875					880
Ala	Pro	Ser	Pro	Arg	Gly	Pro	Ser	Gln	Asp	Ser	Leu	Ala	Val	Ser	Pro
				885					890					895	
Ala	Gly	Pro	Gly	Lys	His	Gly	Pro	Gln	Ala	Pro	Glu	Leu	Ser	Cys	Val
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Ser	Gln	Asn	Glu	Arg	Ala	Pro	Arg	Leu	Gln	Thr	Ser	Gln	Pro	Cys	Ser
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Cys	Pro	Asp	Ile	Ile	Gln	Leu	Leu	Ser	Gln	Glu	Glu	Gly	Val	Phe	Ala
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Gln	Asp	Leu	Glu	Pro	Ala	Pro	Ile	Glu	Asp	Gly	Ile	Val	Tyr	Pro	Glu
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Pro	Ser	Asp	Ser	Pro	Thr	Met	Asp	Thr	Ser	Ala	Phe	Gln	Val	Gln	Ala
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Pro	Thr	Gly	Gly	Ser	Leu	Gly	Arg	Met	Tyr	Pro	Gly	Ser	Arg	Gly	Ser
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Glu	Lys	His	Ser	Pro	Asp	Ser	Ala	Cys	Ser	Val	Asp	Tyr	Ser	Ser	Ser
		995					1000					1005			
Arg	Leu	Ser	Ser	Pro	Glu	His	Pro	Asn	Glu	Asp	Ser	Glu	Ser	Thr	Glu

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Pro Leu Ser Val Asp Gly Ile Ser Ser Asp Leu Glu Glu Pro Ala Glu 1025 1030 1035 1040		
Gly Asp Glu Asp Glu Glu Glu Glu Gly Gly Thr Gly Leu Cys Gly Leu 1045 1050 1055		
Gln Glu Gly Gly Pro Arg Thr Pro Asp Gln Glu Gln Phe Leu Lys Gln 1060 1065 1070		
Leu Phe Glu Thr Leu Ala Asn Gly Thr Ala Pro Gly Gly Pro Ala Arg 1075 1080 1085		
Val Leu Glu Arg Thr Glu Ser Arg Ser Ile Ser Ser Arg Phe Leu Leu 1090 1095 1100		
Gln Val Gln Thr Leu Pro Leu Arg Glu Pro Ser Leu Ser Ser Ser Gly 1105 1110 1115 1120		
Leu Ala Leu Thr Ser Arg Pro Asp Gln Val Ser Gln Val Ser Gly Glu 1125 1130 1135		
Gln Leu Lys Gly Ser Gly Ala Thr Pro Pro Gly Ala Pro Pro Glu Met 1140 1145 1150		
Glu Pro Ser Ser Gly Asn Ser Gly Pro Lys Gln Val Ala Pro Val Leu 1155 1160 1165		
Leu Thr Arg Arg Arg Asn Asn Leu Asp Asn Ser Trp Ala Ser Lys Lys 1170 1175 1180		
Met Ala Ala Thr Arg Pro Leu Ala Gly Leu Gln Lys Ala Gln Ser Val 1185 1190 1195 1200		
His Ser Leu Val Pro Gln Asp Glu Val Pro Ser Ser Arg Pro Leu Leu 1205 1210 1215		
Phe Arg Glu Ala Glu Thr Gln Gly Ser Leu Gly Ser Leu Pro Gln Ala 1220 1225 1230		
Gly Gly Cys Ser Ser Gln Pro His Ser Tyr Gln Asn His Thr Thr Ser 1235 1240 1245		
Ser Met Ala Lys Leu Ala Arg Ser Ile Ser Val Gly Glu Asn Pro Gly 1250 1255 1260		
Leu Ala Thr Glu Pro Gln Ala Pro Ala Pro Ile Arg Ile Ser Pro Phe 1265 1270 1275 1280		
Asn Lys Leu Ala Leu Pro Ser Arg Ala His Leu Val Leu Asp Ile Pro 1285 1290 1295		
Lys Pro Leu Pro Asp Arg Pro Thr Leu Thr Thr Phe Ser Pro Val Ser 1300 1305 1310		
Lys Gly Leu Thr His Asn Glu Thr Glu Gln Ser Gly Pro Leu Arg Glu 1315 1320 1325		
Pro Arg Lys Ala His Thr Thr Val Glu Lys His Ser Cys Leu Gly Glu		

1330

1335

1340

Gly Thr Thr His Lys Ser Arg Thr Glu Cys Gln Ala Tyr Pro Gly Pro
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Asn His Pro Cys Arg Gln Gln Leu Pro Val Asn Asn Leu Leu Gln Ala
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Glu Ser Leu Gln Pro Leu Ser Pro Glu Lys Thr Arg Asn Pro Val Glu
 1380 1385 1390

Ser Ser Arg Pro Gly Val Ala Leu Ser Gln Asp Ser Glu Leu Ala Leu
 1395 1400 1405

Ser Leu Gln Gln Cys Glu Gln Leu Val Ala Glu Leu Gln Gly Asn Val
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Arg Gln Ala Val Glu Leu Tyr Arg Ala Val Thr Ser Cys Lys Thr Pro
 1425 1430 1435 1440

Ser Ala Glu Gln Ser His Ile Thr Arg Leu Leu Arg Asp Thr Phe Ser
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Pro Val Arg Gln Glu Leu Glu Val Leu Ala Gly Ala Val Leu Ser Ser
 1460 1465 1470

Pro Gly Gly Ser Pro Gly Ala Val Ala Ala Glu Gln Thr Gln Ala Leu
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Leu Glu Gln Tyr Ser Glu Leu Leu Leu Arg Ala Val Glu Arg Arg Met
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Glu Arg Arg Leu
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Arg Gly Pro Arg Asn Lys Lys Arg Gly Trp Arg Arg Leu Ala Glu Glu
 35 40 45

Pro Leu Gly Leu Glu Val Asp Gln Phe Leu Glu Asp Val Arg Leu Gln
 50 55 60

Glu Arg Thr Thr Gly Gly Leu Leu Ala Glu Ala Pro Asn Glu Lys Leu
 65 70 75 80

Phe Phe Val Asp Thr Gly Phe Lys Arg Lys Glu Pro Arg Lys Lys Arg
 85 90 95

Pro Ala Pro Lys Asp Ile Leu Ala His Gln Val Pro Asn Ala Lys Lys
 130 135 140
 Leu Arg Arg Lys Glu Glu Leu Trp Glu Lys Leu Ala Lys Gln Gly Glu
 145 150 155 160
 Leu Pro Arg Asp Val Arg Lys Ala Gln Ala Arg Leu Leu Ser Pro Pro
 165 170 175
 Thr Pro Lys Ala Lys Pro Gly Pro Gln Asp Ile Ile Glu Arg Pro Phe
 180 185 190
 Tyr Asp Leu Trp Asn Pro Asp Asn Pro Leu Asp Thr Pro Leu Ile Gly
 195 200 205
 Gln Asp Ala Phe Phe Leu Glu Gln Thr Lys Lys Lys Gly Val Arg Arg
 210 215 220
 Pro Gln Arg Leu His Ile Lys Pro Ser Gln Val Pro Ala Val Glu Val
 225 230 235 240
 Ile Pro Ala Gly Ala Ser Tyr Asn Pro Thr Phe Glu Asp His Gln Ala
 245 250 255
 Leu Leu Arg Glu Ala His Glu Val Glu Leu Gln Arg Glu Lys Glu Ala
 260 265 270
 Glu Lys Leu Glu Arg Gln Leu Ala Leu Pro Thr Ser Glu Gln Ala Ala
 275 280 285
 Thr Gln Glu Ser Val Phe Arg Glu Met Cys Glu Gly Leu Leu Glu Glu
 290 295 300
 Ser Asp Gly Glu Asp Glu His Glu Ala Gly Arg Ala Gly Gln Pro Glu
 305 310 315 320
 Ala Gly Asp Gly Thr Thr Glu Ile Ser Pro Thr Gly Ala Ala Gly Pro
 325 330 335
 Glu Lys Arg Met Glu Lys Lys Thr Glu Gln Gln Arg Arg Arg Glu Lys
 340 345 350
 Ala Ala Arg Lys Leu Arg Val Gln Gln Ala Ala Leu Arg Ala Ala Arg
 355 360 365
 Leu Gln His Gln Glu Leu Phe Arg Leu Arg Gly Ile Lys Ala Gln Val
 370 375 380
 Ala Arg Arg Leu Ala Glu Leu Ala Arg Arg Arg Glu Gln Arg Arg Ile
 385 390 395 400
 Arg Arg Leu Ala Glu Ala Asp Lys Pro Arg Arg Leu Gly Arg Leu Lys
 405 410 415
 Tyr Gln Ala Pro Asp Ile Asp Val Gln Leu Ser Ser Glu Leu Ser Gly
 420 425 430
 Ser Leu Arg Thr Leu Lys Pro Glu Gly His Ile Leu Arg Asp Arg Phe
 435 440 445

Lys Ser Phe Gln Lys Arg Asn Met Ile Glu Pro Arg Glu Arg Ala Lys
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Phe Lys Arg Lys Tyr Lys Val Lys Leu Val Glu Lys Arg Ala Tyr Arg
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Glu Ile Gln Leu

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<213> Artificial Sequence

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<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:Synthetic DNA

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31

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